

WHAT IS CLAIMED IS:

1. A virtual path configuration apparatus used in a virtual private network to interconnect a plurality of user networks via virtual paths and that is arranged in each node, comprising:
 - 5 a configuration information setting unit that sets configuration information that is information about configuration of the virtual private network;
a configuration information sharing unit that shares the configuration information with other virtual path configuration
10 apparatuses in the virtual private network by transmitting the configuration information set by the configuration information setting unit to the other virtual path configuration apparatuses or receiving configuration information from the other virtual path configuration apparatuses; and
15 a virtual path configuration unit that configures the virtual path based on the shared configuration information.
2. The virtual path configuration apparatus according to claim 1,
wherein the configuration information setting unit sets additional
20 configuration information that is information that is to be added to the configuration information set previously,
the configuration information sharing unit transmits the additional configuration information to the other virtual path
configuration apparatuses and receives additional configuration
25 information from the other virtual path configuration apparatuses, and

the virtual path configuration unit reconfigures the virtual path based on configuration information obtained by adding the additional configuration information to the configuration information set previously.

- 5 3. The virtual path configuration apparatus according to claim 1, wherein the configuration information setting unit sets deletion configuration information that is information that is to be deleted from the configuration information set previously,

the configuration information sharing unit transmits the deletion
10 configuration information to the other virtual path configuration apparatuses and receives deletion configuration information from the other virtual path configuration apparatuses, and

the virtual path configuration unit reconfigures the virtual path based on configuration information obtained by deleting the deletion
15 configuration information from the configuration information set previously.

4. The virtual path configuration apparatus according to claim 1, wherein the configuration information sharing unit monitors states of the
20 other virtual path configuration apparatus.

5. The virtual path configuration apparatus according to claim 1, wherein the configuration information includes information about nodes to which the user networks attach, and the virtual path configuration
25 unit configures virtual paths between the nodes in a full mesh manner.

6. The virtual path configuration apparatus according to claim 1,
wherein the configuration information includes information about ports
to which the user networks attach, and the virtual path configuration
5 unit configures virtual paths between the ports in a full mesh manner.

7. A virtual path configuration method executed on a virtual path
configuration apparatus used in a virtual private network for
interconnecting a plurality of user networks via virtual paths and that is
10 arranged in each node, comprising:

setting configuration information that is information about
configuration of the virtual private network;

sharing the configuration information with other virtual path
configuration apparatuses in the virtual private network by transmitting
15 the configuration information set by the configuration information setting
unit to the other virtual path configuration apparatuses or receiving
configuration information from the other virtual path configuration
apparatuses; and

configuring the virtual path based on the shared configuration
20 information.

8. The virtual path configuration method according to claim 7,
wherein the setting includes setting additional configuration information
that is information that is to be added to the configuration information
25 set previously,

the sharing includes transmitting the additional configuration information to the other virtual path configuration apparatuses or receiving additional configuration information from the other virtual path configuration apparatuses, and

5 the configuring includes reconfiguring the virtual path based on configuration information obtained by adding the additional configuration information to the configuration information set previously.

9. The virtual path configuration method according to claim 7,
10 wherein the setting includes setting deletion configuration information that is information that is to be deleted from the configuration information set previously,

the sharing includes transmitting the deletion configuration information to the other virtual path configuration apparatuses or
15 receiving deletion configuration information from the other virtual path configuration apparatuses, and

the configuring includes reconfiguring the virtual path based on configuration information obtained by deleting the deletion configuration information from the configuration information set previously.

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10. The virtual path configuration method according to claim 7,
wherein the sharing includes monitoring states of the other virtual path configuration apparatus.

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11. The virtual path configuration method according to claim 7, wherein the configuration information includes information about nodes to which the user networks attach, and the virtual path configuration unit configures virtual paths between the nodes in a full mesh manner.

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12. The virtual path configuration method according to claim 7, wherein the configuration information includes information about ports to which the user networks attach, and the virtual path configuration unit configures virtual paths between the ports in a full mesh manner.

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13. A computer program that realizes a virtual path configuration method to be executed on a virtual path configuration apparatus used in a virtual private network for interconnecting a plurality of user networks via virtual paths and that is arranged in each node, comprising:

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setting configuration information that is information about configuration of the virtual private network;

sharing the configuration information with other virtual path configuration apparatuses in the virtual private network by transmitting the configuration information set by the configuration information setting unit to the other virtual path configuration apparatuses or receiving configuration information from the other virtual path configuration apparatuses; and

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configuring the virtual path based on the shared configuration information.

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14. The computer program according to claim 13, wherein the setting includes setting additional configuration information that is information that is to be added to the configuration information set previously,

5 the sharing includes transmitting the additional configuration information to the other virtual path configuration apparatuses or receiving additional configuration information from the other virtual path configuration apparatuses, and

the configuring includes reconfiguring the virtual path based on
10 configuration information obtained by adding the additional configuration information to the configuration information set previously.

15. The computer program according to claim 13, wherein the setting includes setting deletion configuration information that is
15 information that is to be deleted from the configuration information set previously,

the sharing includes transmitting the deletion configuration information to the other virtual path configuration apparatuses or receiving deletion configuration information from the other virtual path
20 configuration apparatuses, and

the configuring includes reconfiguring the virtual path based on configuration information obtained by deleting the deletion configuration information from the configuration information set previously.

16. The computer program according to claim 13, wherein the sharing includes monitoring states of the other virtual path configuration apparatus.
- 5 17. The computer program according to claim 13, wherein the configuration information includes information about nodes to which the user networks attach, and the virtual path configuration unit configures virtual paths between the nodes in a full mesh manner.
- 10 18. The computer program according to claim 13, wherein the configuration information includes information about ports to which the user networks attach, and the virtual path configuration unit configures virtual paths between the ports in a full mesh manner.